

Media Release

Natural Gas Reliance, Distributed Energy Resources Among Long-Term Reliability Challenges Facing Industry

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ATLANTA – Natural gas dependency, distributed energy resource challenges and maintaining essential reliability services as the resource mix changes are among the most pressing emerging reliability issues facing bulk power system reliability, the North American Electric Reliability Corporation’s long-term assessment finds.

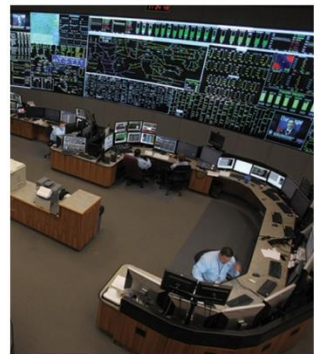
The [2016 Long-Term Reliability Assessment](#) concludes that anticipated reserve margins are sufficient across North America for the next five years. While the assessment shows substantive plans for maintaining capacity resources beyond 2021, significant uncertainty about plant retirements and new resources emerges sooner in some areas. For example, unconfirmed retirements totaling 3.3 GW and 7 GW in MISO and ERCOT respectively occur as early as 2018 and could compromise resource adequacy without the needed replacement capacity.

“The rapid changes in the resource mix means NERC and industry must examine reliability during periods that will critically stress the system, including those hours when demand is low and contribution from wind and solar is high,” said John Moura, director of Reliability Assessment and System Analysis. “Planning for resources that are variable in nature and connect to the grid asynchronously require different approaches to assure future grid reliability.”

Potential reliability challenges cited in the assessment stem from a tightening of planning reserve margins, an increasing reliance on natural gas, the increasing uncertainty about the future of nuclear generation and the rapid emergence of distributed energy resources in the transformation of the overall resource mix. For example, in New England and California a high dependency on natural gas resources can challenge reliability if pipelines or storage facilities are forced out of service, particularly for extended periods.

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The report highlights the value of probability-based resource evaluations to better understand the reliability contributions of emerging solar and wind, which together are expected to increase by 23 GW, or 24 percent of all projected resource additions, by 2026.

Increasing installations of distributed energy resources, including rooftop solar, present an emerging challenge to the reliability of the bulk power system. Because these resources are located on the distribution system, they often lack sufficient visibility and operational control to reliably accommodate them on a large scale. As much as 43 GW of distributed solar (residential and non-residential) are expected by 2021, with the most significant additions occurring in California and North Carolina.

The assessment, which looks out 10 years, also finds that relatively low natural gas prices continue to affect the competitiveness of nuclear generation with possible nuclear retirements creating uncertainty about future resource and transmission needs.

The assessment recommends that policy makers coordinate with transmission planners in developing plans that influence the resource mix to more fully evaluate how future reliability is impacted and the wide-area implications of the changing resource mix. Other recommendations include ushering in new measures and metrics that support the evaluation of essential reliability services, which allow for better planning and decision making. Finally, better information and data coordination platforms across the transmission-distribution interface are needed.

NERC assessments provide a high-level view of resource adequacy and identify long-term emerging issues and trends that will influence future bulk power system planning, development and system analysis. NERC assessments also provide recommendations and support a learning environment for industry to pursue improved reliability performance. These recommendations and the associated analyses provide a technical and policy basis for system planners, operators, and policy makers to understand reliability trends, future emerging reliability issues and the need for coordination among industry, regulators and policy makers.

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The North American Electric Reliability Corporation (NERC) is a not-for-profit international regulatory authority whose mission is to ensure the reliability of the bulk power system in North America. NERC develops and enforces Reliability Standards; annually assesses seasonal and long-term reliability; monitors the bulk power system through system awareness; and educates, trains, and certifies industry personnel. NERC's area of responsibility spans the continental United States, Canada, and the northern portion of Baja California, Mexico. NERC is the electric reliability organization for North America, subject to oversight by the Federal Energy Regulatory Commission and governmental authorities in Canada. NERC's jurisdiction includes users, owners, and operators of the bulk power system, which serves more than 334 million people.